Return On Investment Technology Briefing

ROI TechBrief™

FACT-BASED ASSESSMENT FOR TECHNOLOGY DEPLOYMENT

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How to assess return-on-investment factors for new and replacement technology in media production studios

Derived from primary activity-based research of 30,000-plus media creators.

▼ COMPUTING PLATFORMS
▼ PURCHASE ADVISORY
▼ CREATIVE PROFESSION: AUTHORS, DESIGNERS, PRODUCERS
▶ TRADE-OFF ANALYSIS OF MACINTOSH AND WINDOWS PLATFORMS

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OVERVIEW

Digital media professionals and the companies that employ them use technology to maximize productivity—the production of commercial media that meet or exceed market requirements for quality, timeliness, and cost.

As in all primary commercial activities, enterprise executives must manage media production to the principal standard of return-on-investment: how this contributes to profits and shareholder value.

Based on research of 30,226 media professionals and more than 10,000 media-producing firms, this technical briefing examines all major factors related to the ways in which desktop computing platforms affect the productivity of creative professionals.

This briefing also correlates productivity gains to revenue creation and profitability of a media-producing firm.

KEY FINDINGS

Examination of the most profitable media-producing firms and individuals in the media producer industry suggests a definitive management benchmark for the purchase and deployment of computing technology: return-on-investment (ROI).

This benchmark supersedes a common but misleading benchmark: cost-of-ownership. An ROI benchmark correlates the cost of ownership and productivity of media producers to revenue and profit.

Detailed ROI analysis reveals that a Macintosh-using creative professional produces $26,441 more annual revenue and $14,488 more net profit (per person) than a Windows user of comparable skill engaged in similar work.

This revenue differential enables a PowerPC Macintosh-based studio to achieve payback on a new platform in 4.59 months. In stark contrast, a Windows NT-based firm requires 12.58 months to recoup its investment—eight months longer.

Clearly, for profit-oriented firms, deployment of Macintosh technology constitutes a fiduciary responsibility.

MAIN POINTS

- Creation of brand-related media represents 86 percent of all commercial media production; entertainment productions represent 8 percent; publishing and educational endeavors represent the remaining 6 percent.
- Of the 3,762,922 creative professionals in the North American Media Producer Industry, 49.8 percent use Macintosh platforms and 37.6 percent use Windows (all versions) as their primary system, respectively.
- Of the top 10 percent of income earners (Best Practice group), 63 percent use Macintosh, 20 percent use Windows platforms, and 17 percent use other UNIX work stations or OS2 platforms.
- Due to a more efficient computing environment (i.e., integrated hardware and systems software platform, system resources optimized for media-rich processing, and third-party software applications), the Macintosh user gains per year an average 234 more prime time authoring and composition hours than a Windows user.
- In a fully accounted, 36-month cost-of-ownership analysis of a system purchase, a Macintosh user saves $2,211 more than a Windows user.
- The PowerPC Macintosh user, on average, generates 7.14 times ROI over three years. Windows NT users achieve 2.02 times ROI in the same period.

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MACINTOSH VERSUS WINDOWS

Analysis of productivity gains for the years 1995 and 1996 reveals several important patterns.

First, Macintosh users dominate the Best Practice group in nine of the ten areas, illustrating how Mac-based businesses earn more money than their Windows counterparts—how Windows user interface conventions, and missing and / or native-more applications crucial to media production.

Second, the Best Practice groups for Windows generally lag behind the Macintosh average. This means that the average Macintosh user got higher productivity gains for the year 1995-1996 than the top 10 percent of Windows users in CD-ROM Publishing, Desktop Publishing, and Executive Management.

Third, contrary to popular but misinformed opinion, productivity gains of the Macintosh user continue to grow faster than Windows users. Surprisingly, productivity gains for Windows users appear arrested, and in some segments has actually began to recede.

This underscores the lower overall reliability of Windows (especially the Win 3x and 95), poorer font and PostScript processing (all Windows versions), lack of true plug-and-play (all versions, especially Win 3x / NT), manifold problems associated with connecting / reconnecting to a network, and fewer multi-vendor applications crucial to media production.

BEST PRACTICE BY PLATFORM	
MACINTOSH	63%
WINDOWS	20%
OTHER	17%

What do the most successful, productive, highly paid, and most satisfied (Best Practice) users of a technology know that most of their common practice peers do not? Each Best Practice segment represents the top ten percent of income earners with a unique accumulation of skills, abilities, and technology deployments. They also use technology differently: they upgrade considerably faster—almost twice as fast.

The Macintosh Advantage: Higher Net Profit

Greater productivity and higher per hour revenues combine to make the Mac the platform of choice for the creative professional as well as profit-driven media-producer firms.

The net profit advantage of the Macintosh underscores a key factor in the depth and extent of loyalty among its users.

Mac users surveyed by GISTICS report an overall profitability two times greater than Windows users.

While the industry reports a net profit (before taxes) of 23 percent, additional research performed by GISTICS reveals a 10 percent inflation factor (an over-reporting of profits). With a real industry pre-tax net profit of 13.55 percent, Macintosh users report an average of 30 percent profitability. Windows users report 14 percent. Subtraction of the same 10 percent inflation factor suggests that Macintosh users generate a 20 percent net profit, while Windows users create four percent.*

Analysis also shows that the Macintosh segment does not fully convert its productivity into profits like the Windows sector. We estimate that Mac users reinvest at least six percent of their profits in non-economic activities (self-directed learning, experimentation, etc.), lowering their overall net productivity to 14 percent. This calls attention to several key differences between these two sectors.

Bottom-line results, indicated in the chart below, **Net Profit Per Person by Practice**, show that Mac usage creates more than four times the profit of a comparative Windows environment. GISTICS calculated these figures using derived variables, i.e., projected amounts based on the sum of total reported revenues minus expenses.

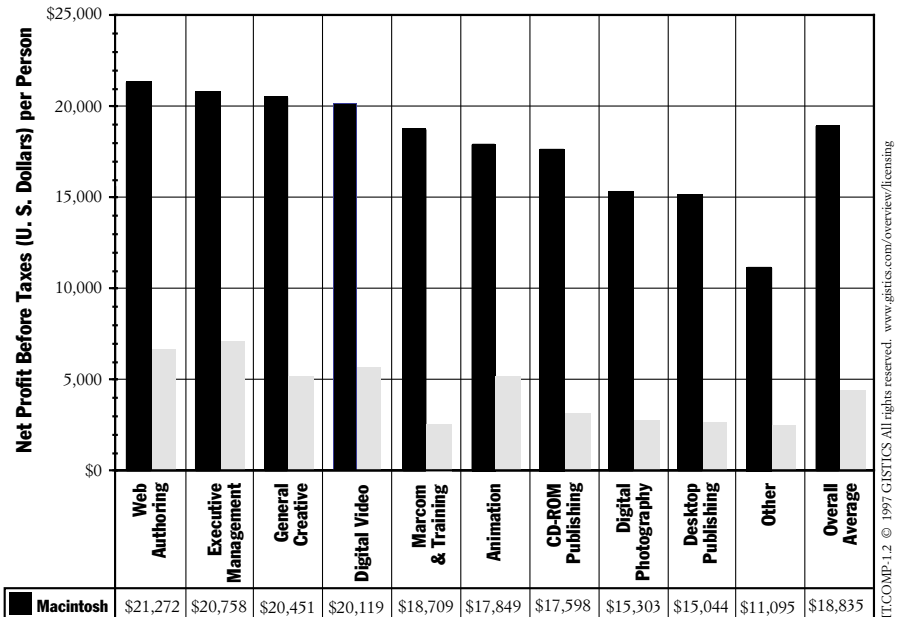
Research data and anecdotal commentary indicate that Mac users "reinvest" a significant portion of their productivity gains in areas other than authoring and composition. Mac users spend more time learning about new applications programs, investigating next-generation peripherals, and experimenting with enhanced workflow and studio management practices.

In contrast, Windows users pay high penalties for experimentation—learning new applications and exploring new system configurations. In such environments, Windows platforms require several hours, if not days, to rectify a system fault caused when installing or de-installing new software or hardware.

As a percentage of all users by platform, Mac users have 3.1 times more early adopters than the Windows sector. Their increased appetite for and pursuit of productivity gains translate into a significant productivity advantage over Windows users. This further corroborates that Mac users "reinvest" a higher portion of their productivity gains in learning and experimentation.

*GISTICS research also supports the conclusion that Windows and Mac users "inflate" profits to roughly the same degree.

NET PROFIT PER PERSON BY PRACTICE



Mac-using professionals produce, on average, $14,488 more net profit than Windows users.

RETURN-ON-INVESTMENT COMPARISONS

Return-on-investment scenarios for Macintosh and Windows platforms detail average productivity compared to the investment required. In these scenarios, ROI represents a multiple of the investment. For example, a two times three-year return-on-investment indicates that the benefits equal two times the investment over a three-year period.

Months to Break-Even expresses the number of months after purchase that one will have recouped one's total investment from accrued productivity gains and cost savings. In these costs, the fewer number of months it takes to break-even, the better.

Upgrading Matters

Economic data analysis developed from 20,000-plus surveys of creative professionals underscores the undisputed economic advantage of Macintosh platforms.

Using an overall average, the typical Macintosh user will recoup her/his investment in 5.42 months, generating a 5.50 times return-on-investment over three years.

In sharp contrast, the typical Windows user will recoup her/his investment in 12.26 months, generating a 2.12 times return-on-investment over three years.

From a strictly financial perspective, the break-even and return-on-investment data for Windows renders it an unacceptable solution for most creative professionals. In fact, the prudent financial manager will consider deployment of Windows platforms a breach of fiduciary responsibility, and a career-altering decision.

The lower investment needed and higher productivity benefits increase the return-on-investment (ROI)—derived from the number of times one can divide the investment (costs) into the productivity benefit.

A higher ROI figure means that it takes fewer months following the purchase of a new system to recoup the cost of that system—less months to break-even.

The three-year investment figures shown to the right include all costs, including hardware, software, training, and support.

New PowerPC-based Macintosh customers will generate a 7.14 times return-on-investment over a three-year period, achieving break-even in 4.59 months.

NOTE: Three-Year Productivity Benefits were derived from an independent survey question on productivity, and do not reflect the savings estimated earlier based on operating system.

Initial benefit figure was computed using 1995-1996 year as a baseline. GISTICS multiplied this by three to arrive at the Three-year Productivity Benefits. The differences in the amounts represent three factors: independently reported individual productivity for each category (times) individual billing rate (times) average number of hours worked per year.

R.O.I. ANALYSIS - MACINTOSH

	Three-Year Investment	Three-Year Productivity Benefits	Three-Year ROI	Months to Break-even
Macintosh Averages				
Animation	$15,417	$78,759	4.11	7.05
CD-ROM Publishing	12,287	92,270	6.51	4.79
Desktop Publishing	12,531	73,514	4.87	6.14
Digital Photography	10,764	60,648	4.63	6.39
Digital Video	12,953	117,492	8.07	3.97
Executive Management	17,540	107,089	5.11	5.90
General Creative	15,025	110,463	6.35	4.90
Marcom & Training	11,798	54,285	3.60	7.82
Web Authoring	17,059	110,146	5.46	5.58
Average	14,243	97,081	5.82	5.42
PowerPC Breakdown				
Animation	$17,731	$108,382	5.11	5.89
CD-ROM Publishing	13,465	128,110	8.51	3.78
Desktop Publishing	14,458	101,018	5.99	5.15
Digital Photography	12,411	81,452	5.56	5.49
Digital Video	14,731	167,183	10.35	3.17
Executive Management	18,829	129,249	5.86	5.24
General Creative	16,640	145,334	7.73	4.12
Marcom & Training	12,428	60,534	3.87	7.39
Web Authoring	19,465	150,020	6.71	4.67
Average	15,904	129,422	7.14	4.59
Macintosh 68000 Breakdown				
Animation	$12,423	$40,441	2.26	11.06
CD-ROM Publishing	10,764	45,525	3.23	8.51
Desktop Publishing	10,038	37,938	2.78	9.53
Digital Photography	8,634	33,734	2.91	9.21
Digital Video	10,654	53,214	3.99	7.21
Executive Management	15,873	78,423	3.94	7.29
General Creative	12,937	65,352	4.05	7.13
Marcom & Training	10,983	46,194	3.21	8.56
Web Authoring	13,947	58,567	3.20	8.57
Average	12,095	55,206	3.56	8.09

CONSIDERATIONS FOR CHANGING SYSTEM TECHNOLOGY

Productivity reflects a worker's understanding of the job to perform and how best to execute it—application of knowledge to work.

As studio managers consider conversion to a new computing platform, they must take into account their willingness and ability to retrain their media-producing professionals. Numerous significant differences exist between the Mac and Windows worlds (the latter comprising Windows 95, Window NT, and Windows 95 / NT / Internet Explorer 4.0—the latest "de facto" standard user interface from Microsoft). These differences not only affect the behavior of individual programs, they have a significant impact on the nature and feel of studio workflow and worker morale.

It becomes critical that managers assess this impact before committing to a conversion.

Research data indicates that it takes 9 to 18 months of steady use and supplemental training to master a complex media-producing software tool.

While many tools exist for both Mac and Wintel system, skills do not immediately transfer—myriad differences and nuance takes months to learn and "map" into reflexive behavior. Rote training and calisthenics help tremendously; however, most craft professionals find them disgusting and stupid.

Generally, the conversion of Mac to Wintel platforms remains a painful, distasteful process for the creative team. In fact, more than half will quit if forced to convert from Mac. This creates additional costs for recruitment (in a significantly smaller talent pool), training (both remedial and proactive—related to relearning an existing tool, or learning a new tool), and asset conversion.

Asset conversion remains one of the most expensive, hidden costs of platform conversions. Files created, used, reused, and reexpressed on Macs do not automatically work in a Wintel environment: fonts, colors, formatting, and pagination change, rendering the media asset useless without hours of reconstructive work.

For corporations and studios that create and manage "brands" and the media assets that help create them, the costs of a Mac-to-Wintel asset conversion will exceed all potential productivity and support cost savings that might accrue. The daunting task to reconstructing years or decades of work (otherwise reusable in a Mac environment) forces the studio to "reboot" the entire production system—a waste of several thousands to millions of dollars. Reconstruction of one file averages 1.1 hour at fully burdened labor rates of $40 to $70.

GISTICS research of media-producing studios suggests that roughly 3,000 digital files and 1,000 reusable media assets exist for each media producer. A studio of 10 producers will possess approximately 10,000 reusable or reexpressible files; a studio of 100 will have 300,000 usable media assets. This research also indicates that each creative professional transfers 1,048 to 1,257 files to an average of 6.1 people per quarter.

NOTE TO CALCULATOR TABLES (NEXT PAGE): The figures shown under the column, *Net Benefits*, reflect the total additional productivity gains and cost savings that a corresponding creative professional will realize.

The figures shown under the column, *Equipment, Support, and Software Costs*, reflect the total additional cost that a corresponding creative professional would incur with the designated conversion.

The figures shown under the column, *Retraining Costs*, reflect the total additional cost that a corresponding creative professional would incur transferring each file with the designated conversion.

The figures shown under the column, *Media Asset Conversion Costs*, reflect the total additional cost that a corresponding creative professional would incur with the designated conversion.

PLATFORM CONVERSION R.O.I. SCENARIOS

This section shows you how to calculate the return-on-investment when converting from one platform architecture to another.

Step one: To calculate the benefit of converting, simply enter the number of creatives (creative professionals) employed by your firm in the appropriate category(s), and multiply each number by its corresponding dollar amount in the *Net Benefits* column. These calculations will populate the column *Totals By Role*.

Step two: Total the dollar figures in the column, *Totals by Role*. The sum represents your firm's *Total Three-Year Gross Benefit* for the designated conversion.

Step three: Place the figure, *Total Three-Year Gross Benefits*, in its corresponding area in Table V, CALCULATION TABLE.

Step four: In Table II, LABOR COSTS, place the number of creative professionals employed by your firm on the appropriate line(s). Multiply each figure by its corresponding amount in the *Retraining Cost* column (note: our research shows that often times, employees will leave after a conversion so there may be recruiting costs in place of retraining costs equalling roughly the same amount). This will populate the column, *Totals by Role*.

Step five: Total the dollar figures in the column, *Totals by Role*. The sum represents your firm's *Three-Year Labor Costs* for the designated conversion.

Step six: In Table III, EQUIPMENT, SUPPORT AND SOFTWARE COSTS, place the number of creative professionals employed by your firm on the appropriate line(s). Multiply each figure by its corresponding amount in the *Direct Costs* column. This sum will populate the column, *Totals by Role*.

Step seven: Total the dollar figures in the column, *Totals by Role*. The sum represents your firm's *Three-Year Direct Costs* for the designated conversion.

Step eight: Calculate the cash salvage value of the equipment you wish to convert in the resale market for used equipment and enter the value in the *Minus Salvage Costs on Original Equipment* position (usually around 10 percent of original purchase price).

Step nine: Subtract *Salvage Costs on Original Equipment* from *Three-Year Direct Costs* to yield *Total Three-Year Direct Costs*.

Step ten: In Table IV, ASSET TRANSFER COSTS, place the number of files used by your firm on the appropriate line(s). Multiply each figure by its corresponding amount in the *Transfer Cost* column. This sum will populate the column, *Totals by Role*.

Step eleven: Total the dollar figures in the column, *Totals by Role*. The sum represents your firm's *Three-Year Transfer Costs* for the designated conversion.

Step twelve: In Table V, CALCULATION TABLE, add together the Total Costs from tables II, III and IV to yield a *Total Three-Year Costs* figure.

Step thirteen: Subtract the figure for *Total Three-Year Costs* from the figure, *Total Three-Year Gross Benefits*. This will yield, *Total Three-Year Net Benefit*.

Step fourteen: Also in Table V, place the *Total Three-Year Costs* in the area marked as a divisor, and divide that figure into the Total *Three-Year Net Benefit*. This will yield the number of times return-on-investment for the featured platform conversion.

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